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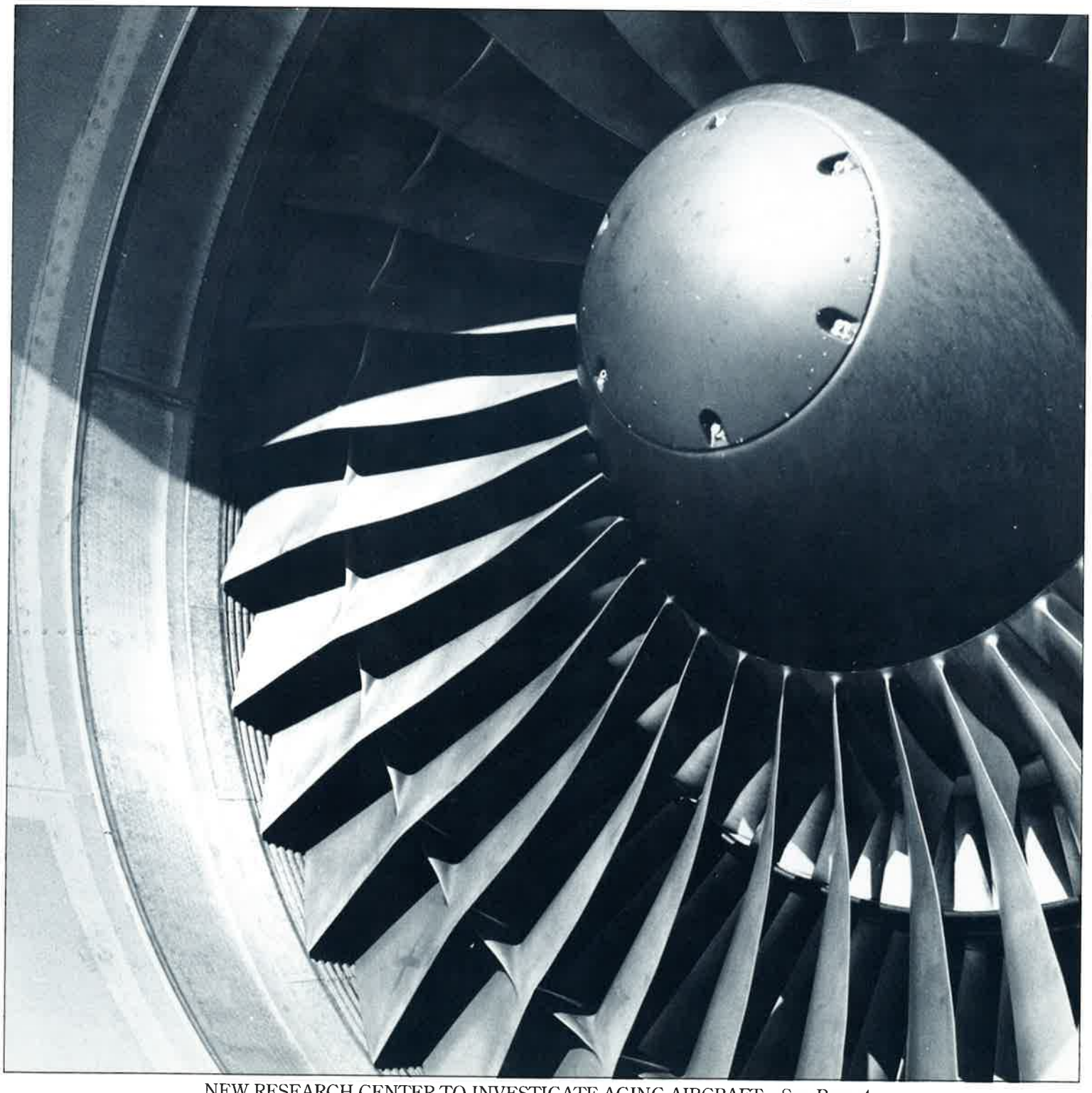
AMES LAB INSIDER



NEW RESEARCH CENTER TO INVESTIGATE AGING AIRCRAFT - See Page 4

Feinberg and Clem Honored

Ellen O. Feinberg

John R. Clem

Breaking its 24-year policy of not giving awards, the Applied Superconductivity Conference Inc. (ASC) recognized the editors of *High T_c Update* for their contributions to the superconductivity scientific community. Ellen O. Feinberg, director of the Superconductivity Information Center, and John R. Clem, senior physicist at the Ames Laboratory and distinguished professor at Iowa State University, were honored this fall during the conference in Snowmass, Colorado.

The chairman of the conference, Alan F. Clark, made the following statement during the presentation. "The ASC has had a longstanding policy of not giving awards to individuals. However, the ASC board decided to make an exception in this instance because Feinberg and Clem have given extraordinary service to the community and should be recognized for developing an information-handling tool which everyone uses, relies on and most importantly, trusts."

Feinberg and Clem were both genuinely surprised and thrilled to receive such a distinguished honor.

Feinberg is editor of the newsletter, a twice-monthly, government-sponsored newsletter for high-temperature superconductivity research. Clem is science editor of the newsletter and evaluates and reports on approximately 100 papers for each issue. The newsletter is available without charge in both hard copy and as electronic mail. Since it began in 1987, the number of subscribers has grown to more than 3000. *High T_c Update* is distributed internationally.

The Department of Energy established the Superconductivity Information Center at Ames Laboratory to facilitate the rapid exchange of research results among scientists. The newsletter provides information on preprints, coming events, resources and news. ❑

Ardis Johnson Retires

Ardis Johnson, senior research technician, Metals Development, retired on October 31, after serving the Ames Laboratory for more than 38 years.

Joining the Ames Laboratory in January, 1952, Johnson worked on a number of projects. "Among the major ones were the development of glove boxes in 1953 to weld metals which are too reactive to work on in open air and the purification of alkaline metals," Johnson recalls. "The purification process developed here ensures a quality product and is used by scientists worldwide."

"There has always been a lot of camaraderie among Ames Laboratory employees. I hope this continues in the future," Johnson adds with a smile.

Johnson has two daughters, one son and seven grandchildren. They have never taken a long winter vacation, but this winter they plan to travel south. His hobbies include, gardening, automobiles and fishing. "I like the peacefulness of the countryside, and enjoy listening to the gentle lapping of water, either in my boat or along the shore. Fishing is very relaxing," he concludes. ❑

Ardis Johnson and his wife.

Wilhelm Receives ASME Medal

Harley A. Wilhelm, Ames Laboratory's first associate director, received one of the highest awards given by the American Society of Mechanical Engineers (ASME) during its annual winter meeting in November in Dallas, Texas.

Wilhelm received the ASME Medal "for pioneering research, invention, and development of the reduction process and the design of commercially feasible methods for applying the process for the preparation of uranium, thorium, and many alloys, which continue to be used worldwide in the production of new alloys."

Wilhelm directed the research that led to the development of a production process necessary to meet the country's needs for large quantities of high-purity uranium metal during WWII. His research on metals led to 44 inventions and then to commercial processes for producing zirconium, hafnium, calcium, and niobium metal. Harley A. Wilhelm Hall, formerly the Metallurgy Building, was renamed in 1986 in honor of his contributions to science.

Wilhelm started his academic career in a one-room school at Pumptown, in south-central Iowa, and attended high school in Ellston. In 1923, he received his baccalaureate degree from Drake University. While attending Drake he was captain of the basketball team and led his team to a series of record setting performances that remained unbroken for 45 years. He was also an outstanding baseball pitcher and was known to Iowans as a semiprofessional pitcher before he was known as a scientist.

Before beginning his graduate studies, Wilhelm

Harley A. Wilhelm

taught science and coached athletics at the high school and college levels. He entered Iowa State University in 1927 as a graduate assistant in physical chemistry and earned his Ph.D. in 1931. He remained at ISU and became head of the graduate research program in metallurgical science. In 1945, he was named associate director of what later became the Ames Laboratory.

He retired as associate director in 1966 and continued as principal scientist and professor of chemistry and metallurgy until his official retirement in 1971, at the age of 70, when he was named Professor Emeritus.

Wilhelm, who celebrated his 90th birthday on August 5, is active in bowling and gardening, mows his own lawn, participates in an exercise class, and plays his accordion in neighboring community parades. He and his wife, Orpha, have been married for 67 years and still live in their own home in Ames. ❑

David Peterson and fish.

A Fish Story

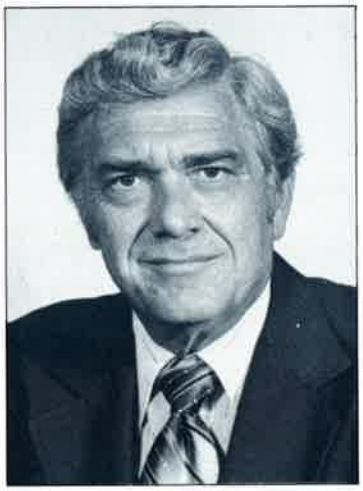
David Peterson spent an exciting afternoon last summer on Leech Lake, near his summer home in Walker, Minnesota. Using the fish locator he received from the Laboratory as a retirement gift, he caught a 52" silver muskie weighing 34 pounds, 4 ounces. His dream came true on August 7 in Walker Bay near Morris Point while using a red Mepps Giant Killer. Peterson's guide and fish-netter was his wife, JoAnne. Their adventure is even more remarkable when you consider that their net had no handle and JoAnne had to lean over the water so she could scoop the prized fish into the boat. Way to go Dave and JoAnne! The trophy is being mounted and will hang proudly in their Minnesota lake home. ❑

New Research Center to Investigate Aging Aircraft

While boarding an airplane, do you ever wonder how old the aircraft is or if it has exceeded the number of flight hours for which it was designed?

Now a new national research center at Iowa State University will investigate problems of aging aircraft that can be assessed with nondestructive evaluation (NDE) techniques. Recognizing Ames Laboratory's

Daniel E. Williams



Donald O. Thompson

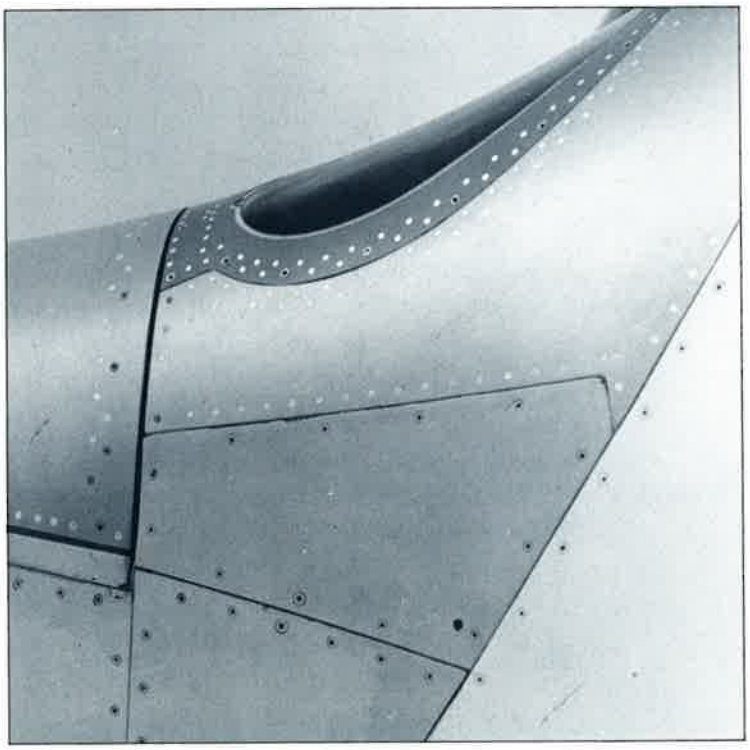
expertise and experience in NDE, the Federal Aviation Administration (FAA) established the Center for Aviation Systems Reliability (CASR) to develop new technologies and methods for inspecting and monitoring aircraft systems for corrosion, stress and fatigue. As a result, inspectors in the future will be able to get a closer look at the condition of airframes, engines and other vital aircraft structures. The FAA's CASR is a member of ISU's Institute for Physical Research and Technology (IPRT), a federation of fundamental and applied research centers.

In September, the FAA provided $3 million for the first 18 months of the center's operation; an additional $3 million is expected next year. The FAA transfers funds for the operation of the center to the Ames Laboratory through the Department of Energy's Chicago Operations Office as a Work for Others project. Daniel E. Williams, associate director for planning and technology application, is the Ames Lab and IPRT site technical representative for the project and will serve as liaison between Ames, DOE-CH and the FAA. The center will be a collaborative effort involving Northwestern University, Wayne State University and others.

The new center's director is Donald O. Thompson, program director, Engineering and Applied Nondestructive Evaluation and the director of the Center for Nondestructive Evaluation. The associate director is Jan Achenbach, director of Northwestern's Center for Quality Engineering.

The first of the center's three major goals is to transfer NDE inspection technologies to the airline industry to improve the maintenance and reliability of aircraft. "Airlines have a remarkably good safety record," Thompson emphasizes. "The center will develop new tools and techniques that can be used in industry's continued effort to upgrade safety. We want to provide assistance and build a

Frontal view of aircraft jet engine showing intake section consisting of engine hub and fan blades.

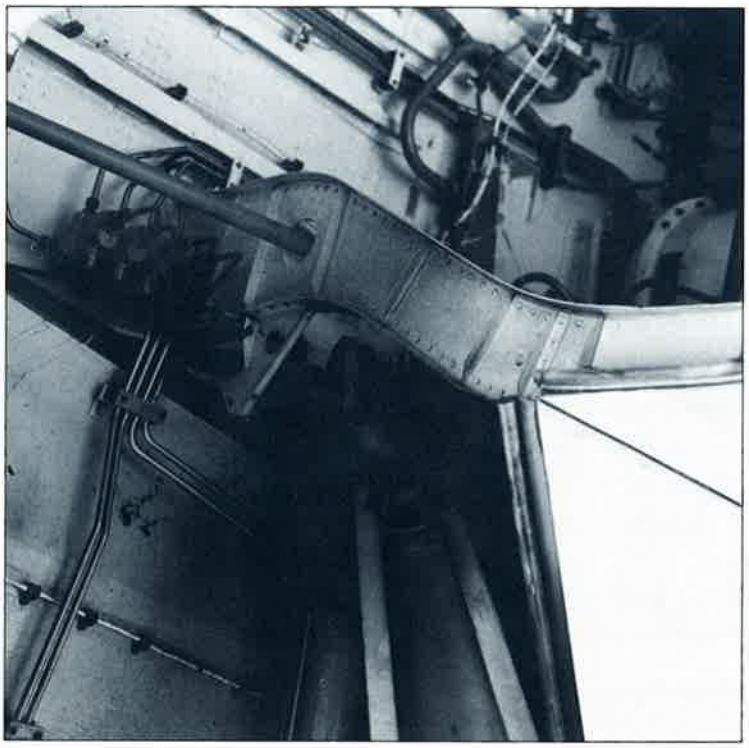


Flush rivets used to attach the outer skin of the airplane to the frame.

cooperative, supportive relationship with the airlines and the aerospace industry."

Awareness of problems with aging aircraft increased after an Aloha airplane had a dramatic accident over the Pacific Ocean when a major section of its fuselage blew out killing a flight attendant. Following this incident, the 1988 International Conference on Aging Aircraft concluded that the airworthiness of the commercial airline fleet is threatened by corrosion and cracking in airframes and engines. That same year, the Aviation Safety Act mandated that the FAA research and develop new technologies to inspect and maintain aging aircraft.

Rear view of aircraft jet engine.



Landing gear wheel well used for storing landing gear while in flight.

"The problems of aging aircraft, or even bridges and highways, are not necessarily due to neglect or misuse but are a natural occurrence associated with aging," explains Thompson. "The problem involves economic issues as well as safety. What do we do with these apparatuses and structures that have reached the end of their design life? We can't just dispose of such huge capital investments. We can no longer afford to say 'throw them away and buy new ones.' If we restore or fix them, how do we know which ones to fix?"

Assisting in the life extension of aircraft is only part of the CASR's goal. The second goal encompasses the development of innovative educational training techniques and teaching networks providing new hands-on opportunities to train and retrain aircraft inspectors in state-of-the-art NDE quality assurance techniques.

In addition to the center's training program, the National Science Foundation is sponsoring an exciting new program to couple a new curriculum at ISU's College of Engineering with a 2-year technical training program at Northeast Iowa Community College (NICC). "The program is aimed at the development of an engineering emphasis area for NDE within the College of Engineering," Thompson says. "This program is the first of its kind in the country. The linking of the program in engineering with the center's training program will produce new opportunities for newly educated and trained field inspectors."

The center's third goal focuses on human factors and the economic analysis of these new technologies. Scientists will examine the role and effect of these technologies on the cost of operation and benefits of safety. Typical issues will include how to improve or design instruments that will enhance operator performance under difficult inspection conditions; or how to keep people from becoming bored with looking at round rivets for eight hours a day. This portion of the center's work will be conducted at Northwestern University.

Working with industry as new aircraft and engines are designed and built, the center will provide information, expertise and research results on new materials and technologies.

"The FAA Center for Aviation Systems Reliability offers a unique opportunity for government, industry and academia to work in concert to help resolve a complex issue," says Williams. "Ames Lab, CNDE and ISU scientists and engineers have once again been recognized as leaders in a significant technical area." ❑

Because of Burt Gleason's retirement from the Ames Laboratory, Dianne Borgen has been named editor of the *Insider* and Pattye Volz is acting manager of the Office of Information.

Items left in corridors or on the docks are a safety hazard as well as being unsightly. Dumpsters are available at each dock to dispose of small items. Items too big for the dumpster are not to be left on the docks. Unidentified items will be considered scrap and disposed of accordingly. If you have something you need hauled away or moved into storage, please contact the Ames Laboratory Warehouse personnel at 4-2916.

P&S EXCELLENCE AWARDS

Professional and scientific staff members are recognized by the University each year for excellence in their respective fields. Up to three Professional & Scientific Excellence Awards of $1000 each are given to those whose accomplishments have benefited or brought honor to ISU within the past 10 years.

Nominees are initially screened by the P&S Election and Representation Committee, with the final selection made by the University President and Provost.

Nomination forms are available from P&S Council members, Dianne Borgen, Tim Gray, or Carol Mack and from the Office of the Provost. Nominations are due February 1 in the Office of the Provost, 107 Beardshear Hall.

Nominations will be retained three years for annual reconsideration. Nominators of candidates not selected the first year will be contacted each of the ensuing years for additional information to update the nomination. Nominations will remain confidential until semifinalists have been selected.

Recognition of a member within your department would be an honor for the department as well as the recipient.

Scheduling of the Spedding Hall conference rooms is handled by Jeanine Crosman in the Engineering Services Office, 158 Development. Please call her at 4-3757 to make your reservations.

The December *Insider* will feature holiday functions including parties, lunches or dinners. If you have an event scheduled, please contact Dianne Borgen at 4-5635 or Saren Johnston at 4-3474 as soon as possible to arrange for photos.

TUITION GRANTS

Tuition grants are available for P, E or H base employees. Forms may be picked up in the Personnel Office, 16 Beardshear. To be eligible, an employee must have been employed in a budgeted position for the equivalent of one year of fulltime uninterrupted service. The qualifications must be met by the beginning of the semester in which the grant is requested.

The Tuition Grant application deadline for spring semester is January 4, 1991. Late applications will not be funded.

COMPUTER SECURITY

This month we begin a discussion of sensitive and mission-essential data. Ames Laboratory is required by DOE Order to protect sensitive and mission-essential data by ensuring integrity, availability and confidentiality.

DOE Order 1360.2A contains two very broad definitions. SENSITIVE UNCLASSIFIED INFORMATION is data that, as determined by competent authority (e.g., information owners), has relative sensitivity and requires mandatory protection or requires a degree of discretionary protection because inadvertent or deliberate misuse, alteration, disclosure, or destruction could adversely affect national or other DOE interests.

MISSION-ESSENTIAL UNCLASSIFIED INFORMATION is unclassified data that, as determined by competent authority (e.g., information owners), has high importance related to accomplishing a DOE mission and requires a degree of protection because unnecessary delays in processing could adversely affect the ability of an owner organization, site, or the Department to accomplish such missions.

Since the above definitions are somewhat vague, the following types and examples of sensitive unclassified data and software are offered to provide clarification.

VITAL RECORDS - records essential for maintaining continuity of contractor (Ames Laboratory) activities during a national emergency. Examples are:

- Emergency operations records
  - General management records
  - Emergency records
- Rights and interests records
  - Legal rights records
  - Fiscal records

PRIVACY ACT INFORMATION - records maintained on an individual that contain a name, identifying number or symbol, or particulars assigned to an individual. Examples are:

- Pay and retirement benefits records
- Medical and psychological records
- Educational achievement records
- Financial transactions (personal)

UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION - certain unclassified government information prohibited from unauthorized dissemination. Examples are:

- Atomic energy defense programs information
- Production or utilization facilities design
- Security measures on special nuclear materials
  - Production or utilization facilities
  - In storage
  - In transit
- Formerly restricted data on design, manufacture, and utilization of weapons or components

OFFICIAL USE ONLY - unclassified information which may be exempt from public release under the Freedom of Information Act. Examples are:

- DOE internal correspondence
- Working papers on defense programs.

We will continue our discussion of sensitive and mission-essential data next month. ❑

NEW EMPLOYEES

Evelyn Abram, Research Helper (Bernard Gerstein)
Cindy Albright, Secretary II (Glenn Schrader)
Srinivas Aluru, Student Associate (John Gustafson)
Alan Anderson, Graduate Assistant (Otto Buck)
Joseph Benjamin, Postdoctoral Fellow (Robert Horton)
Tsing-Chang Chen, Senior Scientist (James Corones)
James Dedic, Research Helper (Joseph Gray)
Rick Dickson, Research Helper (David Birlingmair)
Kenneth Edwards, Student Associate (Ladon Jones)
Mary Ann Greteman, Research Advisor (Bernard Gerstein)
Peter Halevi, Visiting Scientist (Ronald Fuchs)
Tony Hill, Research Helper (Eli Rosenberg)
Mary Hofer, Research Helper (Colin Chriswell)
John Hunt, Student Associate (Ladon Jones)
Nancyne Iverson, Custodian I (Lynn Runge)
Haik Jamgotchian, Visiting Scientist (Otto Buck)
Darla Johnson, Typist Clerk (Dorothy McNee)
Raul Joseph, Research Helper (Bill Buttermore)
David Kaminski, Graduate Assistant (Otto Buck)
Juanita Kartikaajv, Programmer (Tom Johnston)
Kyung Han Kim, Graduate Assistant (Ferdinando Borsa)
Robert Lipert, Associate Chemist (Martin Edelson)
Rong Ma, Postdoctoral Fellow (Jim Espenson)
Seth Meyer, Research Helper (Frank Margetan)
Ibrahim Nassar, Postdoctoral Fellow (Robert Horton)
Brian Peterson, Research Helper (Rick Schmidt)
Ronald Peterson, Research Helper (Norman Dietrich)
Ling Qin, Associate (Nenad Kostic)
John Riley, Senior Scientist (Don Thompson)
Bernard Rosepndowski, Associate (Therese Cotton)
Megan Scherb, Student Associate (Glenn Schrader)
Xian-He Sun, Postdoc (John Gustafson)
Susan Tourtellott, Clerk III (Don Heim)
Michael Wacensovsky, Student Associate (Doug Finnemore)
Chen-Wen Whang, Visiting Scientist (Ed Yeung)
James Willey, Research Helper (Lowell Mathison)
Bradley Wilson, Research Helper (Lisa Brasche)
Jeffrey Woodside, Postdoc (Bing-Lin Young)
Jerzy Ziolo, Visiting Scientist (Ferdinando Borsa)

PROMOTIONS

Connie Bates from Secretary III to Program Assistant II
Stuart Hadley from Research Policy Analyst to Sr. Policy Analyst
Lucille Kilmer from Secretary IV to Administrative Assistant

PROMO/ *Continued on Page 8* ➪

Gleason Retires

Burton J. Gleason retired on November 5 after 31 years of service to Ames Laboratory and Iowa State University. He was most recently the head of the Office of Information and was the first editor of the *Insider.*

Gleason began his career at the Ames Laboratory in 1958 when he joined the public information staff. He was the founding editor of *Ames Lab News,* later to become *Changing Scene.*

Burton J. Gleason, right, celebrates his retirement with Harley A. Wilhelm.

In 1962, Gleason left Ames Laboratory and spent a year at Texas Instruments in Dallas before returning to ISU's College of Engineering as Assistant to the Dean. He later became Assistant to the Vice President for Research and was instrumental in organizing the PREPS Office (funding information and editorial services). He joined the Ames Laboratory's Office of Information in 1978.

"I have enjoyed working with a group of talented and creative people," Gleason says. "They make a manager's job easy. I have always taken pride in working at the Ames Laboratory because of its history and outstanding research and contributions to science."

Originally from York, Nebraska, Gleason came to Iowa State as an engineering student. Gleason studied chemical engineering and technical journalism and received his B.S. degree in 1955 as well as a commission into the Navy. He served two tours of duty in Keflavik, Iceland as a naval aviator.

In 1971 he received his Master's degree in professional studies from ISU. It was also in 1971 that the American Society for Engineering Education recognized Gleason's contributions to engineering journalism with its $1000 George Hayes Award.

Gleason and his wife, Bobbie, have purchased a home, complete with swimming pool, in Cape Coral, Florida at the intersection of two canals. They have leased the property until Bobbie completes her teaching at Gilbert at which time they will retire to Florida.

Gleason's first priority after retirement will be to purchase a boat. He is currently looking at a 42' sailboat that can cruise around the Bahamas and the Caribbean.

They will spend some time visiting their two sons and two daughters who are scattered across the country from Kansas to Virginia. Their only grandchild, in Dayton, Ohio, will get as much of their time as possible.

Avid world travelers, the Gleasons have visited the Soviet Union, Finland, Norway, Sweden, Denmark, and Germany during the past two years. Their next trip will be to China or Alaska, depending on the internal situation in China.

Besides boating, Gleason is interested in flying. He and his two pilot sons plan to do a lot of flying together. Bobbie shares their enthusiasm. Having once served as a TWA stewardess, she often navigates for them on cross-country flights. ❑

➪ **PROMO**/*Continued from Page 7*

Michael Marti from Graphic Designer II to Graphic Designer Supervisor
Eugene Pedersen from Supervisor Graphics Communication Service to Manager Graphics Communication Service
Scott Thornton from Graphic Designer to Graphic Designer II

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